REMARKS

In section 3 of the Official Action, the Examiner asserts that the subject matter of independent claims 15, 17 and 23 and their dependent claims is obvious over the applicants' admitted prior art (AAPA), as shown in Figure 1 of the present application, in view of newly cited U.S. Patent Publication No. 2003/0044109 to Maeda.

This assertion is respectfully refuted. It is respectfully submitted that the Examiner has improperly combined the prior art references, and that the combination of the AAPA and Maeda would ***not*** result in the architecture shown in Figure O2 of the Official Action.

Maeda relates to an optical add-drop multiplexing (ADM) apparatus (paragraph [0002]). Maeda describes that large optical switches are unreliable, and thus, the structure of the ADM apparatus shown in Figure 1 is undesirable due to the use of the large 8×6 optical switch (paragraph [0013]). Instead, Maeda teaches that it is desirable to provide an optical ADM apparatus composed of very small optical switches (paragraph [0014]) that are either 2×1 or 2×2. Maeda indicates that such small optical switches can be provided relatively easily at low cost with higher reliability (see paragraph [0018] and the summary of the invention provided in paragraph [0017]).

Figure 5 of Maeda shows a simplified structure of an optical ADM apparatus according to the concept described therein. In that embodiment, each multi-wavelength input is demultiplexed into signals within individual wavelengths by wavelength demultiplexers 501a to 501d. Each demultiplexed signal is guided to a separate corresponding switch circuit 10-1 to 10-n. The switch circuits 10-1 to 10-n are optical switch circuits corresponding to individual wavelengths (see paragraphs [0043]-[0045]). Thus, Maeda teaches that individual wavelengths are switched separately, by discrete switch circuits.

Figure 8 of Maeda, which the Examiner describes as pertinent to the present invention, like Figure 6, describes only a single switch circuit (see paragraph [0048]), used only for switching an individual wavelength. Each switch within the switch circuit shown in Figure 8 of Maeda is either a 2×1 or 2× 2 switch, in accordance with paragraph [0018] of the "Summary of the Invention" section of Maeda.

In the configuration shown in Figure 1 of the present invention, i.e., the AAPA, it will be noted that a plurality of N switching matrices S1 to SN are provided, with each switching matrix assigned to a respective carrier wavelength λ1 to λN. In other words, should the N switching matrices handle separate wavelengths, the AAPA can hence be regarded as generally providing the ***same*** functionality as the switch circuit shown in Figure 8 of the Maeda.

Applicants submit that the combination of the AAPA and Maeda would ***not*** result in the configuration shown in Figure O2 of the present Official Action. While Maeda does provide, for example, switches 33a, 33b, 35a, 35b in the drop stage, this is simply to allow different inputs to be dropped, as desired, at the different intra-station lines (Drop-1 and Drop-2). It will, for example, be noted that the outputs from the ***input*** demultiplexers 501a-501d are, via a respective splitter 21a - 21d, directly connected to the switches 33a and 33b. Thus, the switches 33a, 33b, 35a, 35b are required, so as to provide one of the signals received from the optical couplers 21a-21d to the relevant intra-station line (e.g., see paragraph [0055]).

By way of contrast, in the AAPA, the drop ports are connected to the ***outputs*** of the switching matrices, such that any of the inputs at a particular wavelength can be directed via a respective switching matrix to a desired drop port, as appropriate for that wavelength. Thus, each

of the N switching matrices shown in Figure 1 of the present application already provides the relevant functionality for the drop switches 33a, 33b, 35a, 35b of Figure 8 of Maeda.

The same argument is applicable in relation to the inputs in AAPA, which are connected to the ***inputs*** of the switching matrices, and which allows them to be provided to any of the N outputs. The switching matrices of the AAPA again provide all the functionality of the switches 42a, 42b, 43a, 43b shown in Figure 8 of Maeda.

Thus, there would be no motivation for the skilled person to add the additional switches provided by Maeda to the AAPA, because that would simply further complicate the structure, which already provides the ***identical*** functionality.

As noted above, Maeda teaches that it is undesirable to provide a switch circuit consisting only of 2×1 and 2×2 switches. It can clearly be seen from Figure 1 of the present application that each switch matrix does not correspond to a single 2×1 or 2×2 switch.

If the skilled person were to combine the teachings of the AAPA with Maeda, the skilled person would take into account the teachings of Maeda about the undesirability of using such large switches. The combination of Maeda with the AAPA would result in a replacement of each switching matrix of the AAPA with a switching circuit comprised of 2×1 and 2×2 switches, as shown in Figure 8 of Maeda.

Further, it is respectfully submitted that there is no motivation for the skilled person to select the particular portion of the switch circuit shown in Figure 8 of Maeda, and to combine that portion in a particular way with the AAPA. Maeda teaches that those switches perform a particular function in relation to the specific overall switch configuration shown in Figure 8.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

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